

Claims

1. A damping device for movable furniture parts, for example for doors or drawers, comprising a piston or plunger which is slidably guided in a hollow body, e.g. a cylinder, with said piston or plunger being impinged upon by spring force into its pushed-out position,

characterised in that

the hollow body (4) comprises at least one section of a spiral-shaped stay (5) of the internal screw thread and/or the piston (14) or plunger (3) comprise/s at least one section of a spiral-shaped stay of the external screw thread (6);

in that the stays (5, 6) of the screw threads are glidingly supported one on top of the other, or that cams (31) or journals of the hollow body (30) or of the piston or plunger are supported on a screw-thread section (34) of the other component (33); and

in that the pitch of the stays of the screw thread is greater than the pitch at which self-locking occurs.

2. The damping device according to claim 1, characterised in that the compression spring (8) is restrained between the bottom (7) of the cylinder (4) and the plunger (3) or piston (14).
3. The damping device according to claim 1 or 2, characterised in that an intermediary piece (11) is arranged between the compression spring (8) and the plunger (3) or piston, with said intermediary piece (11) being non-rotatably connected to said compression spring (8).
4. The damping device according to claim 3, characterised in that the intermediary piece (11) comprises a roughened face which is supported by the plunger (3) or piston.
5. The damping device according to any one of claims 1 to 4, characterised in that the compression spring (8) is non-rotatably held on a cover (7) which forms the bottom of the cylinder.

6. The damping device according to any one of claims 1 to 5, characterised in that a section (15) of the plunger (3) rotatably engages a borehole of a piston (14), which piston (14) comprises at least one screw-thread section or journal.
7. The damping device according to claim 6, characterised in that the cross-section of the journal of the plunger (13), which journal emanates from the cylinder (4), is out of round, polygonal or comprises grooves or longitudinal wedges, and passes through a rim or cover of the cylinder (4) with a complementary opening.
8. The damping device according to any one of claims 1 to 7, characterised in that the piston (33) comprises a section of larger diameter which forms a circumferential step of sawtooth-like shape with bevelled spiral-shaped flanks (34), and approximately axis-parallel flanks (36) which are situated between the former, and in that journals (31) of a cylinder (30) which encompasses the piston (33) are supported on the spiral-shaped flanks (34).
9. The damping device according to claim 8, characterised in that the sawtooth-like step is a flank (34) of a groove (32) made in the piston (33), with the upper flank of said groove in the region of the peak of the step forming pockets with gliding flanks whose base (37) in each instance is approximately axis-parallel beside the peaks (35) in the commencement region of the spiral-shaped flanks (34).
10. The damping device according to claim 8 or 9, characterised in that the cylinder (30) is encompassed by an outer cylinder (42).
11. The damping device according to any one of claims 8 to 10, characterised in that the piston (30) is connected to the bottom plate of the outer cylinder (42).
12. The damping device according to any one of claims 8 to 11, characterised in that the piston (33) is a hollow body, wherein a

compression spring (44) is restrained between the base of this hollow body (33) and the cylinder (30).

13. The damping device according to any one of the preceding claims, characterised in that a high-viscosity grease is applied to surfaces of the components of the spiral-shaped screw-thread stays of the damping device which surfaces glide on each other, and/or to the flanks of said spiral-shaped screw-thread stays.
14. The damping device according to any one of the preceding claims, characterised in that caps made of elastomeric material are placed onto the impact-absorbing plungers or cylinders.
15. The damping device according to claim 14, characterised in that the caps are rotatably connected to the plungers or cylinders.
16. The damping device according to any one of the preceding claims, characterised in that said damping device is inserted in the pot (20) of a hinge or is constructed in one piece with said pot (20) of a hinge, such that during the closing movement, the plunger (3) or cylinder comes to rest against a hinge arm or a swinging arm (22) of the hinge.
17. *A damping device for movable furniture parts, for example for doors or drawers, comprising a piston or plunger which is slidably guided in a hollow body, e.g. a cylinder (50), with said piston or plunger being impinged upon by spring force into its pushed-out position,*

*characterised in that*

*the piston (51) comprises an axial borehole and at least one section of a spiral-shaped stay (52) of the internal screw thread and a plunger (55) which is screwed into the piston (51), with said plunger (55) comprising at least one section of a spiral-shaped external stay (58);*

*in that the stays (52, 58) of the screw threads are glidingly supported one on top of the other, or that cams or journals of the piston or plunger are supported on a thread section of the other component;*

*in that the piston (51) or the plunger (55) is guided so as to be axially displaceable and rotatable, and the other component is guided in the hollow body (50) so as to be axially displaceable and nonrotatable;*

*in that the rotatably guided piston (51) or plunger comprises coupling devices (64) which can be coupled, in the pushed-out position of the rotatable piston or plunger, with countercoupling devices (63) of an element which is rotatable (61) in the hollow body (50) against resistance; and*

*in that the pitch of the screw-thread stays exceeds the pitch at which self-locking occurs.*

18. *The damping device according to claim 17, characterised in that the plunger (55), which can be screwed into the piston (51), comprises at least one radial cam (56) or a spring which is or are guided in a longitudinal groove of the internal wall of the hollow body (50) or a bush (53) which closes off this hollow body.*
19. *The damping device according to claim 17 or 18, characterised in that the element which can be rotated in relation to a decelerating moment of torsion comprises a tubular section (61) which is rotatably held in a annular groove in the bottom region of the hollow body (50).*
20. *The damping device according to claim 19, characterised in that the tubular section (61) is embedded in the annular groove by means of a high-viscosity grease.*
21. *The damping device according to claim 19 or 20, characterised in that the coupling devices and countercoupling devices comprise sawtooth-like teeth (63, 64) arranged on the ring-shaped faces of the tubular section and of the tubular piston, which engage each other to form a coupling when the plunger is pushed in.*
22. *The damping device according to any one of claims 19 to 21, characterised in that a compression spring (69) is restrained between the*

*face of the journal (60), exposed by the annular groove, at the base of the hollow body (50) and the rear end of the plunger (55).*